

Article

Socially Active Aging and Self-Reported Health: Building a Sustainable Solidarity Ecosystem

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Abstract: Senior volunteering is associated with improved welfare, in addition to contributing to social development. Thus, the involvement of seniors in non-profit organizations (NPO), the third sector, or the social economy is encouraged by European national governments. At the organizational level, the situation for older volunteers in the third sector has improved in recent years, mainly due to European legal regulations. Despite a certain degree of homogenization across European countries, significant national differences persist in the adoption and promotion of volunteering. The present study examines the link between self-reported health and participation in volunteering activities among European seniors, stratified by sex and generation (the Silent Generation and the Baby Boomer Generation). We focus our analysis on seniors living in Germany, Poland, Romania, Russia, Slovenia, Spain, Sweden, Turkey, and Ukraine. Analyses were conducted using empirical micro data from the World Values Survey (WVS; 1994/98, 2005/09 and 2010/14). Our results demonstrate the positive impact of volunteering on health status among the elderly, although we observed marked differences in the associated benefits between sexes, generational cohorts, and countries. Public policies should be developed with this important source of social capital in mind, but should also seek to address existing inequity.

Keywords: ageing; health; non-profit organizations; public policies; social economy; Sustainable Development Goals; volunteering; well-being

1. Introduction

Ensuring healthy aging constitutes a major public health challenge; if the necessary measures are not taken, the resulting reversal of the population pyramid will have a huge impact on the economy, health, social development, and healthcare systems [1]. Healthy aging implies that individuals not only live longer, but also live better. According to the Swedish Institute of Public Health [2], healthy aging entails optimizing opportunities for good health so that older people can participate actively in society and enjoy independence and a good quality of life. Thus, on the one hand, healthy aging promotes a reduction in health spending on medical treatments, and, on the other hand, it is associated with a greater contribution to society made by the elderly.

The quality of aging depends on multiple factors, including access to and use of educational and health services, biological processes, environmental factors, and specific individual behaviors and socioeconomic characteristics [3–5]. As such, it is essential to promote health throughout the entire lifespan of individuals in order to ensure their well-being in old age [6].

The health effects of lifestyle-related factors, including physical inactivity, a high-fat diet, and tobacco or alcohol consumption, have been well studied by the scientific community. Being socially active is also linked to health status and volunteerism. Senior volunteering is a way of being active, an opportunity to work for and with people when the roles in the work and family domains have been fulfilled [7]. Social activity helps to prevent loneliness and stress among seniors, provides social support, and enriches daily life. Being involved in social interactions, commitment to social activities, and finding social significance in life are positive social indicators that could be promoted through volunteerism [8].

The main goal of this study was to examine the socio-demographic determinants of seniors' well-being, in particular volunteering decisions. Senior volunteers may be better protected from the hazards of retirement, physical decline, and inactivity than others of the same age who do not perform volunteer work. While the positive correlation between volunteering and self-rated health is well established, questions remain regarding omitted-variable bias, self-selection, and reverse causality. While volunteering may improve self-reported health, it is also possible that those with a better self-reported health status are more likely to volunteer, or share some common characteristics with those who volunteer. We argue that the conclusions of this research are of interest for the achievement of the United Nations Sustainable Development Goals, specifically Goal Three: *ensure healthy lives and promote well-being for all at all ages*. We take as starting point that senior volunteering fosters healthy aging by helping volunteers to continue their personal development and to continue to contribute to their communities while retaining their autonomy and health. In this way, healthy aging promotes the building of societies that are cohesive and sustainable.

We conducted an international study of the health status of European seniors and their participation in volunteering activities. In addition to including a variable indicating whether the individual is a volunteer, we classified volunteering activities into four categories, according to the focus of the activity: religion, social awareness, education- and leisure-related activities, and professional/political activities.

In line with the argument that there has been a global change in people's priorities from materialistic to post-materialistic values [9], our main contribution was to describe the similarities and differences in self-reported health status and participation in volunteering activities among European seniors, taking into account sex and generational differences (the Silent Generation and the Baby Boomer Generation). Health behaviors and attitudes differ among men and women, so there are important gender gaps. In general women live longer, but men better value their state of health [10]. In addition, we also considered sub-samples of birth cohorts to analyze if characteristics or experiences shared by a group of people affect their well-being. For example, the Silent Generation may have suffered the consequences of experiencing the Spanish Civil War (1936–1939) and post-war period; thus they have been exposed to higher levels of psychosocial and socioeconomic stress than Baby Boomers [11].

We used data from the World Values Survey (WVS; 1994/98, 2005/09 and 2010/14), a robust instrument that provided us with a rich data set describing citizens' well-being and socio-demographic characteristics, and their participation in volunteering activities.

We focused on Europe for two reasons. First, the European population is aging, and the elderly population thus represents a significant proportion of the total population. While the European population had four workers per retiree at the beginning of the millennium, this is projected to decrease to two workers per retiree by 2050 [12]. Second, European governments are uniformly enacting austerity plans and spending cuts in an attempt to reduce national debts and curtail public spending.

In this context, European welfare systems have to support a larger population that does not contribute economically, or contributes in ways that are not reflected in national accounts. Lifestyles, including volunteering, affect our health. The statutory minimum retirement age is relatively homogeneous throughout countries of the EU. It is thus interesting to assess the geographical differences between these countries, which reflect the attempts of different welfare systems to implement effective social policies. In this context, volunteerism represents a productive contribution to society [13].

Moreover, the theory of continuity [14] explains that employee volunteering [15] can be a predictor of volunteering activity in retirement.

In general, the authors identify a set of models that relate different types of non-governmental organizations to different types of welfare systems [16]. However, after the outbreak of the 2008 global economic crisis, [17] it was pointed out that states should be left aside for the analysis of civic participation. Civic participation might be better explained as a response to globalization, and it has been a much more inspiring force within the global context than within national territories. There are various factors that contribute to this, such as countries' participation in international institutions [18] and the advancement of information technology [19]. As a consequence, countries show more homogenized patterns in volunteering which lead to a growing isomorphism in a global civil society around the world.

2. Materials and Methods

2.1. Literature Review

Volunteering is an important element of civil society all over the world [20]. Volunteering can be defined as the organized performance in which time is given freely to benefit another person, group, organization, or society as a whole [21]. Volunteering must be a free choice, unpaid, aim to help others, and carried out through an organizational framework [22].

Following the theory of human capital [23], volunteering promotes the development of certain skills and experience. These skills could ease labor market access or other additional returns [24–26]. However, volunteers are basically perceived as altruistic individuals who offer their economic resources to meet other people's needs. Voluntary work includes acts of solidarity and public benefit, and commitments to the environment and to social welfare. However, the reality may be more complex. Participation in the social economy through non-profit organizations (NPO) generates social benefits, in that NPO members interchange ideas, transfer knowledge, generate interpersonal trust and encourage political involvement, and raise human capital in other ways [27]. Cooperation through volunteering in NPOs is a viable and sustainable solution that benefits all involved, including the volunteers themselves [28–30].

For example, by sharing their professional experience, retirees can help those who are beginning their careers, while at the same time benefitting personally from a feeling of usefulness within their communities. The theory of activity proposes that after retirement seniors attempt to replace their former job with volunteering work as a means of maintaining a positive sense of themselves [31,32]. Volunteering can play a particularly important role among the elderly by helping to protect them against the hazards of retirement, physical decline, and inactivity. Moreover, volunteering may help prevent social isolation, which is a major risk factor in mortality from a wide variety of causes. Through increased social engagement, volunteering may provide a protective mental health benefit in older adults, particularly women [33,34].

Some studies have shown that volunteers self-report a better health status than non-volunteers [35–41]. In longitudinal studies, volunteering is associated with various indicators of well-being, including a reduction in mortality and depressive symptoms and an improvement in physical function, self-reported health, and life satisfaction [42]. Even in senior citizens with multiple chronic diseases, participating in volunteer activities may improve self-reported health status [43] in general, and psychological health, physical health, and longevity [44] in particular. Health status in the elderly has been measured using a wide variety of indicators, including depressive symptoms [8], the Index of Competence [45], independent instrumental activities of daily living [46], physical activity, resting heart rate, blood pressure [47], and a predictor of tooth retention in later life [48].

Recent research suggests that participating in volunteer activities during leisure time has a positive reinforcing effect on both health and happiness [49–51]. Furthermore, the positive social effects of

volunteering activities in the elderly persist up to two years after the social capital interventions [8]. In fact, volunteering by seniors could be highly beneficial for societies with large aging populations.

Most seniors participate in volunteering activities only after having been asked, whereas a smaller proportion actively seeks volunteering opportunities [52]. As such, the impetus driving volunteerism may be relevant to inferring individual characteristics that encourage certain behaviors. In addition to promoting volunteering decisions, certain personality traits, such as extraversion, contribute to life satisfaction [53]. Furthermore, many employees acquire volunteering experience through corporate social responsibility initiatives, which further encourage volunteering in retirement [15,54].

Social relations are important in themselves. However, to analyze their possible instrumental value, it is essential to discern whether these relationships are perceived as “satisfactory” or not. Processes and networks of mutual assistance, the dissemination of health-related information, and the promotion of healthy behaviors are only effective in the context of high-quality relationships [55].

Different types of volunteering activities require distinct volunteer profiles. In our research we have classified volunteering activities in four categories: *Social Awareness*, *Profession & Politics*, *Education & Leisure*, and *Religion*. The type of volunteering activity can have different effects on those involved [56]. Volunteering in a professional organization is not the same as volunteering in a religious group [57]. Moreover, participation in different types of NGOs has different effects on the capabilities of their members and different benefits to society [58]. Associations can be instrumental or expressive in character. In general, voluntary organizations with an expressive character promote the development of more homogeneous networks, while those of an instrumental character tend to promote the development of more heterogeneous contacts [59]. Voluntary organizations of an instrumental character are positively associated with political participation [58], as instrumental participation involves the pursuit of goals outside of the group. In this scenario, volunteering involves more than enjoying the social aspect of the activity and the opportunity to participate; volunteers have a certain social vocation that drives them to influence public behavior in accordance with certain values or social norms. By contrast, voluntary organizations of an expressive character exist primarily to allow their members to express themselves and fulfill their needs, and are more homogeneous in their composition and goals [60]. These organizations provide entertainment and appear to have a shorter-lived impact on the attitudes of their members [60,61].

Finally, who we are and where we live has a profound effect on our well-being [62]. It is important to consider the issue of diversity in health [63], and, in particular, to advocate for effective international policies on equity and human rights. The effect of social relationships and support networks on the well-being of men and women depends on a variety of demographic and environmental factors including age, socioeconomic status, and residence in an urban or rural environment [64]. Similarly, national differences in volunteering may be linked to differences in economic background, religious traditions, political systems, and/or democratic stability [65]. Both structural factors and cultural determinants may influence volunteering decisions [66,67].

2.2. Data Base and Descriptive Statistics

The World Values Survey constitutes a powerful tool for the study of the socioeconomic determinants of well-being. While seven waves of this survey have been conducted to date, only data pertaining to the last three waves (1994/98, 2005/09 and 2010/14) were used in the present study. Restricting the empirical analysis to these three waves ensured that the questions included in the questionnaires were comparable over time. Our analysis focused on senior citizens aged from 51 to 70 years old from Germany, Poland, Romania, Russia, Slovenia, Spain, Sweden, Turkey, and Ukraine.

In Europe, as in most developed countries around the world, the chronological age of 65 years has been recently accepted as the definition of an older person [68]. However, the aging process is, of course, a biological reality which has its own dynamic. It is very difficult to introduce a habit, whatever it may be, in the third age, and is necessary to promote it in previous vital stages. To approach aging as a process requires awareness along the life span, and that is the main reason that observations of

citizens aged 51 to 70 years old have been selected. As a positive externality, this criterion allows for comparison between two generations: the Silent Generation and Baby Boomers.

Sex and generational differences were taken into account by considering four subsamples stratified by sex (men and women) and by generational cohort (the Silent Generation, born between 1925 and 1949; and the Baby Boomer Generation, born between 1950 and 1965) [69].

Health was measured based on the self-reported health status, scored on a scale of 1 (excellent) to 5 (very poor). We also constructed a dummy variable (*Health*) for these categories, whereby 1 indicates that the individual self-reported an excellent or very good health status, and 0 indicates otherwise.

Active membership of any non-profit organization was taken as an indicator of volunteering. The WVS considers voluntary participation in 11 different volunteer activities. For simplicity, we classified voluntary work into four groups [70]: (1) *Social Awareness*: activities related to human rights or environmental and animal conservation; (2) *Profession & Politics*: activities related to unions, political parties, and professional associations; (3) *Education & Leisure*: activities related to education, culture, youth work, sports, or leisure; (4) *Religion*: activities related to churches or religious organizations. Volunteers working on issues relating to social awareness and religion could have other-oriented motivations (extrinsic motivations), while those working on issues related to professions and leisure activities could be driven by motivations centered on the self (intrinsic motivations). We created one general dummy variable, *UW(All Categories)*, and four dummy variables, one for each category: *UW(Social Awareness)*, *UW(Politics & Profession)*, *UW(Leisure & Education)*, and *UW(Religion)*.

Figure 1 depicts the self-reported health status and rate of volunteering for senior citizens from 1994–98 to 2010–14. Those that reported the highest rate of good health were male respondents to the 1994–98 survey belonging to the Baby Boomer Generation, 56% of which self-reported good health. By contrast, female respondents to the 1994–98 survey belonging to the Silent Generation had the lowest rate of self-reported good health, at 25%. As expected, men and Baby Boomers self-reported a better health status than women and those belonging to the Silent Generation. Nevertheless, for both men and women, the proportion of people from the Silent Generation self-reporting a good health status was approximately 10 percentage points higher in 2010–14 versus 1994–98. The proportion of female Baby Boomers who self-reported a good health status remained constant over time, while the corresponding proportion of males decreased by around 5 percentage points between 2005–09 and 2010–14. Women from the Silent Generation were the least likely to volunteer (21% in the 1994–98 survey), while men from the Baby Boomer Generation were the most likely (40% in the 1994–98 survey). Volunteering rates remained constant for the Silent Generation and decreased for Baby Boomers. In fact, the most recently recorded volunteering rates for Baby Boomers were similar to those of the Silent Generation cohort.

As shown in Figure 2, Sweden had the highest rate of seniors with self-reported good health (~75%) and the highest rates of volunteering (~50%). By contrast, Ukraine had the lowest rate of seniors with a self-reported good health (<25%) and one of the lowest volunteering rates (~10%). However, assuming a direct correlation between self-reported health and volunteering may be misleading: Spain and Turkey both showed high rates of self-reported health but low rates of volunteering.

Table 1 shows the population distribution according to dependent and explanatory variables. As shown in Figure 1, men and Baby Boomers reported a better health status than women and those from the Silent Generation cohort. Significant sex and generational differences were observed. Women were less likely to volunteer than men, particularly for activities related to politics and professions. Sex differences were less pronounced in the Baby Boomer Generation cohort. In the Silent Generation cohort, the percentage of married individuals was higher for men than women. This could be explained by the higher percentage of widows versus widowers in that generational cohort. The comparison of generational cohorts revealed a markedly higher percentage of divorcees in the Baby Boomer Generation versus the Silent Generation cohort. The analysis of the employment situation and educational level revealed that men reported higher rates of work and a higher level of education, although these differences were less pronounced in the Baby Boomer cohort. Finally, we

also controlled for country of residence using country dummy variables (Germany, Poland, Romania, Russia, Slovenia, Spain, Sweden, Turkey, and Ukraine) and year of survey using wave dummy variables (1994–98, 2005–09 and 2010–14).

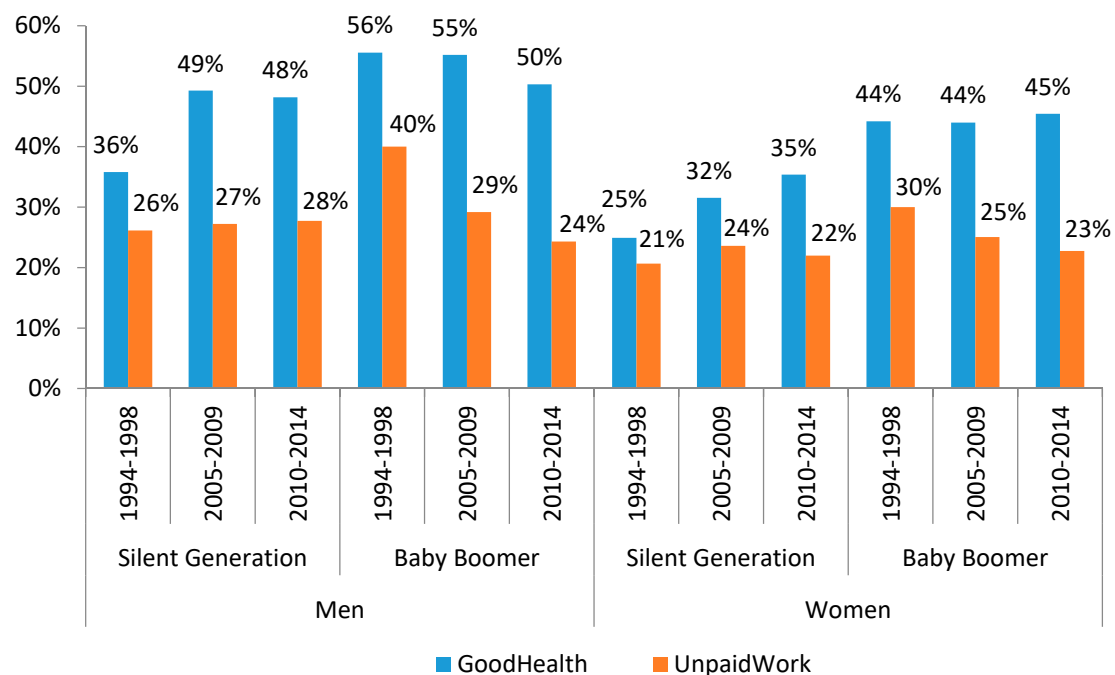


Figure 1. Self-reported health status and volunteering activity in European seniors, by sex and birth cohort. (Data: World Value Survey. Self-Elaboration.)

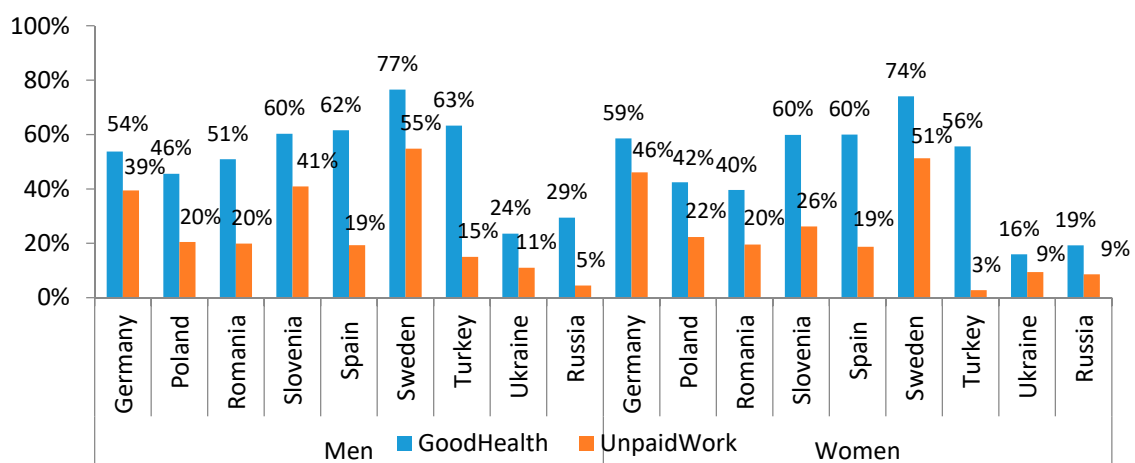


Figure 2. Self-reported health status and volunteering activity in European seniors, by sex and country of residence (2010/14). (Data: World Value Survey. Self-Elaboration.)

Table 1. Descriptive statistics for dependent and explanatory variables.

	Women		Men	
	Silent Generation	Baby Boomer Generation	Silent Generation	Baby Boomer Generation
<i>Health</i>	27.99%	44.90%	40.80%	52.08%
<i>UW(All Categories)</i>	21.68%	23.81%	26.63%	26.47%
<i>UW(Social Awareness)</i>	4.13%	4.99%	5.63%	4.89%
<i>UW(Politics & Profession)</i>	4.79%	8.07%	11.03%	11.94%
<i>UW(Leisure & Education)</i>	9.13%	10.20%	11.93%	13.49%
<i>UW(Religion)</i>	10.89%	9.04%	7.84%	5.85%
Married	57.97%	65.88%	85.08%	80.23%
Single	4.50%	4.49%	3.19%	6.23%
Divorced	8.21%	14.43%	4.21%	10.02%
Widowed	29.31%	15.21%	7.52%	3.53%
Worker	22.87%	44.21%	35.90%	56.01%
Housewife	12.72%	13.98%	1.88%	1.92%
Unemployed	1.70%	4.45%	2.33%	7.97%
Retired	62.72%	37.35%	59.89%	34.10%
Primary Education	57.69%	33.01%	55.56%	35.32%
Secondary Education	29.83%	49.07%	27.96%	46.25%
Tertiary Education	12.47%	17.92%	16.48%	18.42%
Low Income	50.14%	33.98%	40.56%	28.88%
Middle Income	42.52%	58.20%	49.35%	60.06%
High Income	7.35%	7.83%	10.10%	11.06%
Germany	14.86%	16.14%	18.27%	18.82%
Poland	8.63%	9.20%	8.34%	10.67%
Romania	12.13%	15.17%	12.43%	13.94%
Russia	20.72%	18.62%	15.94%	14.06%
Slovenia	3.98%	8.98%	3.39%	8.28%
Spain	8.56%	6.31%	10.10%	6.97%
Sweden	8.32%	8.46%	9.41%	11.11%
Turkey	4.61%	5.16%	7.85%	7.53%
Ukraine	18.19%	11.98%	14.27%	8.62%
Wave: 1994–98	58.11%	1.52%	58.91%	1.83%
Wave: 2005–09	28.86%	33.46%	29.27%	33.32%
Wave: 2010–14	13.03%	65.02%	11.82%	64.85%
No. of Observations	2866	2688	2435	2282

Data: World Value Survey. Self-Elaboration. (Total number of observations: 10,271.)

2.3. Multilevel Modeling

The main objective of this project was to analyze potential determinants, including volunteering activities, of self-reported health among European seniors. To this end, we used modeling and econometric estimation techniques to evaluate the relationship between volunteering and the

self-reported health status in this population. The models and estimation techniques used were selected depending on the nature of the data to be analyzed (cross-sectional) and the desired reads-outs (estimated probabilities).

We used a Simple Logits model (reporting results in terms of elasticities) to understand the influence of socioeconomic characteristics and volunteering decisions on the health status of European seniors:

$$H_i = \beta_0 + \beta_1 X_i + \beta_2 UW_i + \beta_3 Country_i + \beta_4 SurveyYear_i + \varepsilon_{1i}$$

The health status of individual i (H_i) depends on socioeconomic factors (X_i), volunteering decisions (UW_i), country of residence ($Country_i$), year of survey ($SurveyYear_i$), and a set of unobserved variables summarized in a zero-mean error term (ε_{1i}). We considered two models. In Model 1 UW_i we included $UW(All\ Categories)$, whereas in Model 2 UW_i we included $UW(Social\ Awareness)$, $UW(Politics\ \&\ Professional)$, $UW(Leisure\ \&\ Education)$ and $UW(Religion)$. We repeated the analysis four times for the sex and generational subsamples (women from the Silent Generation, women from the Baby Boomer Generation, men from the Silent Generation, and men from the Baby Boomer Generation) to identify differences between estimated parameters that would in turn reveal sex and generational gaps. In these models, the key parameter for our research was β_2 , which provides information on the causal effect of volunteering decisions on health status, controlling for differences in the observed and unobserved determinants of (H_i). Finally, we conducted a Smith–Blundell exogeneity test to determine whether volunteering decisions constituted independent variables. If any explanatory variable was simultaneously explained by the model that defines the dependent variable, this could indicate a problem of endogeneity, which in turn could bias the results. Given that the structure of our data is cross-sectional, endogeneity problems could lead to estimations that erroneously suggest correlation effects, instead of causal effects. For Model 1, the test confirmed that $UW(All\ Categories)$ was an endogenous explanatory variable of health status for women of the Baby Boomer Generation cohort (the coefficient of the residual of volunteering in the estimation of health status equaled -10.707 , with a z-statistic of -3.23) and for men from the Silent Generation cohort (the coefficient of the residual of volunteering in the estimation of health status equaled -11.903 , with a z-statistic of -3.78). There was no empirical evidence of endogeneity for Model 2. Given that the magnitude of the estimated parameters of volunteering activities was not particularly high and the other estimated parameters remained robust across models, we decided to keep the empirical strategy as simple as possible.

3. Results

For both male and female seniors, living in an eastern European country was associated with a poorer health status and reduced engagement in volunteering activities as compared with counterparts living in Sweden (the country of reference).

Table 2 shows the results of the analysis of the role of volunteering as a determinant of health status in European women. The results of the Smith–Blundell exogeneity test indicate that the relationship between volunteering and health status in women may represent a correlative rather than a causal association (Model 1) for women of the Baby Boomer Generation. However, for women of the Silent Generation cohort, the positive effect of volunteering, and in particular volunteering in leisure- and education-related activities, was robust (Model 2). Among women of the Silent Generation, divorced and single women were more likely to enjoy good health than married women. Employment, education, and income level were all relevant determinants of good health. The influence of each of these factors was more significant for women of the Baby Boomer Generation versus the Silent Generation. Both education and income reinforced positive results and reduced the prevalence of negative results.

The impact of education and income was stronger for women of the Baby Boomer Generation versus those of the Silent Generation cohort.

Table 2. Estimations for good health status among women (logit: elasticities).

	Model 1		Model 2	
	Silent Generation	Baby Boomer Generation	Silent Generation	Baby Boomer Generation
<i>UW(All Categories)</i>	0.040 **	0.041 **	--	--
<i>UW(Social Awareness)</i>	--	--	−0.012	0.012
<i>UW(Politics & Profession)</i>	--	--	0.017	0.021
<i>UW(Leisure & Education)</i>	--	--	0.075 ***	0.044
<i>UW(Religion)</i>	--	--	0.015	0.011
LnAge	−0.178	−0.208	−0.054	−0.202
Married ^a	--	--	--	--
Single	0.060 *	−0.020	0.073 *	−0.027
Divorced	0.022	−0.031	0.034	−0.035
Widowed	0.000	−0.057 **	0.001	−0.061 **
Worker ^a	--	--	--	--
Housewife	−0.048	−0.036	−0.064 **	−0.040
Unemployed	−0.110 **	−0.069 *	−0.120 **	−0.073 *
Retired	−0.077 ***	−0.114 ***	−0.108 ***	−0.115 ***
Primary Education ^a	--	--	--	--
Secondary Education	0.064 ***	0.098 ***	0.065 ***	0.100 ***
Tertiary Education	0.104 ***	0.123 ***	0.101 ***	0.124 ***
Low Income ^a	--	--	--	--
Middle Income	0.049 ***	0.095 ***	0.052 ***	0.101 ***
High Income	0.102 ***	0.182 ***	0.103 ***	0.183 ***
Germany	−0.093 ***	−0.048	−0.087 ***	−0.049
Poland	−0.280 ***	−0.179 ***	−0.192 ***	−0.175 ***
Romania	−0.183 ***	−0.171 ***	−0.169 ***	−0.173 ***
Russia	−0.446 ***	−0.410 ***	−0.438 ***	−0.413 ***
Slovenia	−0.140 ***	−0.051	−0.122 ***	−0.047
Spain	−0.006	0.095 **	0.005	0.094 *
Sweden ^a	--	--	--	--
Turkey	−0.077 *	0.007	−0.065	0.007
Ukraine	−0.3667	−0.403 ***	−0.357 ***	−0.406 ***
Wave:1994/98 ^a	--	--	--	--
Wave:2005/09	0.023	0.033	0.005	−0.004
Wave:2010/14	0.063 **	0.084	0.040	−0.047
Pseudo-R2 (%)	18.01	15.94	18.58	16.03
Estimated Probability	35.73	35.61	39.37	40.57

***, **, and * denote that explanatory variables were statistically significant at 99%, 95%, and 90% levels.

^a Reference variable.

Table 3 shows the results of the analysis of the role of volunteering as a determinant of health status in European men. The coefficient of volunteering, regardless of the type of activity, was positive for men from the Silent Generation cohort. The results of the Smith–Blundell exogeneity test indicate that the impact of volunteering on health status in men may represent a correlative rather than a causal association (Model 1). However, we found evidence of a positive impact of volunteering in profession- and politics-related activities for men of the Silent Generation and in leisure- and education-related activities for men of both generational cohorts, although this effect was stronger for men of the Silent

Generation cohort (Model 2). Among men of the Baby Boomer Generation, divorcees were less likely than married men to enjoy good health. Education, but only in specific income levels, was identified as relevant determinant of good health. The impact of income was stronger for women of the Baby Boomer Generation than those of the Silent Generation cohort. Comparing the data shown in Tables 2 and 3, we observed no strong sex differences. However, compared with male counterparts, the health status of women of the Silent Generation was more sensitive to the impact of unemployment and tertiary education.

Table 3. Estimations for good health status among men (logit: elasticities).

	Model 1		Model 2	
	Silent Generation	Baby Boomer Generation	Silent Generation	Baby Boomer Generation
<i>UW(All Categories)</i>	0.103***	0.006	--	--
<i>UW(Social Awareness)</i>	--	--	0.001	0.048
<i>UW(Politics & Profession)</i>	--	--	0.072 **	−0.031
<i>UW(Leisure & Education)</i>	--	--	0.093 ***	0.067 **
<i>UW(Religion)</i>	--	--	0.041	−0.021 *
LnAge	−0.096	−0.139	−0.075	−0.138
Married ^a	--	--	--	--
Single	−0.042	−0.062	−0.041	−0.061
Divorced	−0.039	−0.063 *	−0.035	−0.064 **
Widowed	−0.022	−0.060	−0.021	−0.060
Worker ^a	--	--	--	--
Housewife	−0.091	−0.211 ***	−0.097	−0.214 ***
Unemployed	0.049	−0.080 *	0.041	−0.081 **
Retired	−0.086 ***	−0.200 ***	−0.099 ***	−0.202 ***
Primary Education ^a	--	--	--	--
Secondary Education	0.060 ***	0.047 **	0.075 ***	0.047 *
Tertiary Education	0.051 *	0.124 ***	0.062 **	0.125 ***
Low Income ^a	--	--	--	--
Middle Income	0.071 ***	0.097 ***	0.074 ***	0.099 ***
High Income	0.137 ***	0.168 ***	0.148 ***	0.169 ***
Germany	−0.127 ***	−0.731 ***	−0.131 ***	−0.153 ***
Poland	−0.400 ***	−1.097 ***	−0.347 ***	−0.213 ***
Romania	−0.127 ***	−0.764 ***	−0.129 ***	−0.141 ***
Russia	−0.400 ***	−1.964 ***	−0.413 ***	−0.388 ***
Slovenia	−0.185 ***	−0.614 **	−0.184 ***	−0.122 ***
Spain	0.009	0.773	0.013	0.018
Sweden ^a	--	--	--	--
Turkey	0.023 ***	0.099	0.025	0.031
Ukraine	−0.391 ***	−1.962 ***	−0.410 ***	−0.391 ***
Wave:1994/98 ^a	--	--	--	--
Wave:2005/09	0.107 ***	0.386	0.097 ***	0.070
Wave:2010/14	0.079 **	0.116	0.071 ***	0.084
Pseudo-R2 (%)	15.99	13.79	15.22	13.91
Estimated Probability	42.37	43.31	40.25	40.38

We also controlled for country of residence and time dummy variables. ***, **, and * denote that explanatory variables were statistically significant at 99%, 95%, and 90% levels. ^a Reference variable.

As mentioned above, we obtained strong empirical evidence that living in an eastern European country was associated with a poorer health status in both male and female seniors, as compared with counterparts living in Sweden (the country of reference).

4. Discussion

The increasing importance of the third sector in the economy underscores the need for more specific research to explore its role and its consequences. In the present study, we focused on determinants of self-reported health and participation in volunteering activities. Our findings suggest a positive impact of volunteering, particularly in leisure- and education-related activities, on health status in seniors. Indeed, our results, obtained using data for European countries from the World Values Survey, revealed that the country with the highest rates of volunteering also had the highest rates of good health (Sweden), while the countries with the lowest rates of volunteering had the lowest rates of good health (eastern European countries).

Both volunteering and health are affected by a variety of factors, and causality should not be taken for granted. Further research will be required to further explore this issue, taking into consideration the specific effects of different types of volunteering activities [46], the number and frequency of social activities [71], the position of the individual in NPOs [72], and attitudes towards volunteering [47]. However, both formal and informal volunteering [73] have been shown to increase social connectedness and broaden social networks, with a resulting protective effect on mental and physical health [74].

The exposed subject has many perspectives, all of them important. However, in order to answer a research question, the best approach is to focus on a specific point in order to isolate causes and consequences. However, from the point of view of both individual well-being and national welfare systems, many variables are left out of the scope of research. For example, volunteering in activities related to human rights might improve a senior's life satisfaction but reduce their happiness [75]. In this research, we focus on perceived health because it is the first proxy to value individual health and the access and use of health services and products [76].

Designing strategies to promote volunteering among older people requires prior knowledge of the characteristics of that population. The main conclusion that we can draw from our results is that policy-makers should take into account the socioeconomic characteristics of seniors when seeking to design effective policies; for example, improving individual working conditions promotes participation in volunteering activities and improves well-being. While the generation of economic growth is important, it is equally important to promote economic development that helps improve the lives of citizens [77]. In fact, we found that education level and income are key factors influencing the volunteering activity and well-being of seniors. The profile of the senior volunteer is an individual of less than 75 years of age, with good health, who has a high level of education and has achieved a high socioeconomic status [78].

Sex and generational cohort appeared to affect the intensity, but not the overall effect, of socioeconomic factors on volunteering activity [72]. For example, due to changing cultural contexts, the youth experiences of women of the Silent Generation cohort will have differed to those of male counterparts, and to those of women of the subsequent Baby Boomer Generation.

Finally, academic literature suggests that participation in volunteering activities may benefit the health of the volunteer [79]. While participating in volunteering activities generates multiple benefits for all involved, some seniors may not participate in volunteering activities simply due to ignorance. According to the theory of continuity [14], and within the framework of corporate social responsibility, employee volunteerism promotes continued volunteering by retired seniors at non-profit organizations with which they are already familiar [15]. This information can be very useful in developing a political agenda that promotes health and well-being [80]. Moreover, messages about the positive effects of volunteering on society and on volunteers themselves should be reinforced [55]. Volunteering should be recognized as an element crucial for social cohesion, and should be afforded greater visibility in

society [81]. Moreover, given the synergy between social cooperation and well-being, volunteering should be recognized and promoted [82].

In short, volunteering by the elderly constitutes an important resource for the community by, for example, promoting entrepreneurship among the youngest or caring for the most vulnerable older people [47]. Our findings, in agreement with those of other authors, suggest that existing barriers should be removed to facilitate and encourage the participation of seniors in both formal and informal volunteering activities [83,84].

As social researchers, a commitment to the Sustainable Development Goals implies the responsibility to provide empirical evidence that supports policies across all sectors that empower older persons. Active aging transcends healthcare. Senior volunteering allows our elders to feel valued as citizens by working generously in their communities.

As limitations of this research, we highlight four main issues. First, we do not take into account public and private resources that promote volunteering, or even the volunteering contributions to improve citizens' well-being. The economic relevance of the non-profit sector has long remained invisible, given the lack of data. In recent years, some effort has been made to obtain more information on volunteering, mainly fostered by researchers, but increasingly encouraged by governments. Although volunteering has no market price, volunteering has an important economic value [85].

Second, it is important to control for how countries and their welfare systems determine the action of voluntary organizations, but also to take into account that non-profit organizations are becoming global at the same time as they remain conditioned by domestic public policies [86]. For this reason, the role of global civil society in senior volunteering should be addressed in future research [87].

Third, there are important differences among welfare systems in issues related to gender differences and volunteering activities. For example, for senior women in southern Europe, if they engage in volunteering activities, they engage in religious organizations that do not carry out voluntary activities, and, in most cases, they are linked to religious organizations [4].

Four, in-depth interviews and discourse analysis are qualitative methodologies which complement empirical quantitative approaches [88]. This type of analysis can provide further details on the variety of meanings that older people give to their participation in volunteer organizations and better understand the nature of their decision-making process.

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